

**Commonwealth of Kentucky
Division for Air Quality**

RESPONSE TO COMMENTS

ON THE SYNTHETIC MINOR/TITLE V DRAFT PERMIT V-05-080
BLUEGRASS GENERATION COMPANY, LLC

3095 COMMERCE PARKWAY

LA GRANGE, KY 40031

May 18, 2006

Timothy J. Rust, Reviewer

SOURCE I.D. #: 021-185-00036

SOURCE A.I. #: 39541

ACTIVITY #: APE20050002

SOURCE DESCRIPTION:

Bluegrass Generating Company, Inc. has applied to the Division for Air Quality for the renewal of their Title V and Acid Rain permits (V-00-052) for the operation of three existing gas fired simple cycle combustion turbines for peak electric generation located in Oldham County, Kentucky. The facility has three (3) Siemens-Westinghouse 501FD natural gas fired simple cycle combustion turbines, Emission Units 01 thru 03, and one Gas Tech Model #2133, 5 mmBtu/hr natural gas Heater, Emission Unit 04. Each of the combustion turbines are rated at 2076 mmBtu/hr heat input capacity at 208 MW output and are equipped with Dry-Low NOx burners and water injection. Additionally EU01 and EU02 are equipped with Hot Selective Catalytic Reduction (SCR) Units that may be utilized by the Company at their discretion for added NOx control. This facility is classified as a synthetic minor due to its federally enforceable limits on emissions of Nitrogen Oxides (NOx) and Carbon Monoxide (CO).

The Division received a Title V renewal application on 10/25/2005, an Acid Rain renewal application on 04/13/2005, and a NOx budget application on 07/16/2003. No changes to the facility or operation have occurred since issuance of permit V-00-052. The Division will issue a Synthetic Minor/Title V Renewal Permit as # V-05-080 to include the Acid Rain Renewal Permit and the NOx Budget Permit.

PUBLIC AND U.S. EPA REVIEW:

On March 09, 2006, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Oldham Era* in La Grange, Kentucky. The public comment period expired 30 days from the date of publication.

Comment received

Comments were received from Bluegrass Generating Company, LLC on April 4, 2006. Attachment A to this document lists the comments received and the Division's response to each comment. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit.

ATTACHMENT A

Response to Comments

Comments on Bluegrass Generating Company LLC's Oldham Co. Generating Station Draft Title V Air Quality Permit submitted by Barbara Irwin, Senior Environmental Professional.

Permit Application Summary Form

1. Emissions Summary: On page 2 the table shows Actual (tpy) and Potential (tpy) for 2004 emissions. The emissions representing Actual emissions are correct for emissions during 2004. However, since Bluegrass has a facility cap for NOx and CO, the Potential emissions of 239.04 tpy for NOx and 1082.72 tpy for CO should be replaced with 95 and 245 tpy respectively. The Potential emissions currently listed in this summary table are calculated numbers and inaccurate, and could be misleading to anyone reviewing this draft permit. Bluegrass requests these emissions be changed to reflect the most accurate potential emissions for our facility.

Division's response: The Division concurs that the Permit Application Emissions Summary should account for source-wide emission caps. Therefore the potential emissions have been recalculated using the most recent AP-42 emission factors and an estimated 1586 operating hours per each combustion turbine to reflect the most accurate potential emissions for the facility. The changes are reflected in the revised Permit Application Summary.

2. Emissions and Operating Caps Description (continued): The paragraph on page 3 states that in order for Bluegrass to maintain the emissions caps for NOx and CO, operating hours for all turbines shall not exceed 4757 hours per each 12 month rolling period. Bluegrass did not request for an operating hour limit to ensure the NOx and CO caps are not exceeded. Adding an operating hour limit to this permit is a redundant and unnecessary requirement since Bluegrass could not operate more than these hours without being above the ton per year cap limits for NOx and CO. Bluegrass is requesting the operating hour limit of 4757 hours per 12-month rolling period be removed from this permit.

Division's response: The Division acknowledges that Bluegrass did not request in their renewal application an operating hour limit to ensure that the NOx and CO caps are not exceeded. The 4757 operating hours limit in the draft permit was included because the previous revised Statement of Basis listed those operating hours twice but was never carried forward into the final permit. After closer review of the previous Statement of Basis, the operating hours was mentioned in context with the estimation of the Potential Emissions and no specific mention was made in making these hours a permitted limit. Furthermore, research into the merits of including an operating hours limit at Bluegrass revealed that this issue had been addressed for the previous revised permit with the Cabinet Secretary's Order dated December 2, 2003, file No. DAQ-25283-037. Additionally, it was upheld in the Franklin Circuit Court Civil Actions No. 03-CI-01650 Division II and No. 2004-CI-00009 Division I. To include an hours of operation limit in the renewal permit without a request from the permittee would be contrary to the Secretary's Order, therefore, the operating hour limit of 4757 hours per 12 month rolling period was removed from the renewal permit.

Permit Statement of Basis

3. Comments: On page 2, the third full paragraph states that CO emissions during startup and shutdown are calculated based on the vendor recommended emission rate. This is not accurate, Bluegrass does not use vendor emission rate to calculate startup and shutdown emissions. Startup and shutdown emissions are instead based on actual emission testing. Bluegrass uses startup and shutdown emission rates determined from actual emission testing during startup and shutdown. This data has been entered into the CEMS units at Bluegrass and is used to accurately record CO emissions during startup and shutdown event. Bluegrass requests this be noted to reflect more accurately in the permit how startup and shutdown emissions data are obtained and recorded.

Division's response: Comment acknowledged, in 2002, Bluegrass tested Units 1 and 3 for CO startup and shutdown emissions shortly after their initial performance tests and have been submitting this data as emissions for each start and shutdown event. Unit 3's data was considered to be representative of Unit 2 due to the identical fuel nozzle design configuration for each. The Division concurs that this testing indeed reflects more accurate startup/shutdown emissions data. The original vendor data was supplied to the Division as reference only, with no specific vendor guarantee that the numbers would be accurate. However, the actual testing data shows 40 percent higher for Unit 3 and more than 70 percent higher for Unit 1 above the vendor data. The permit has been modified to include startup and shutdown CO emissions that shall be determined from actual emissions performance testing. Furthermore, periodic emissions' testing to reconfirm these emission rates has been added to the permit. However, considering the infrequent operation of these units, only Unit 2 is required to be tested during the 5-year life of the permit unless the source increases its capacity utilization at which time the Division may request additional testing.

Draft Title V Renewal Permit

4. Section B – Condition 1. Operating Limitations: On Page 2 of 25, Condition 1 limits the operating hours not to exceed 4757 hours per each 12 month rolling period. This is a new requirement to the permit. Bluegrass did not request for an operating hour limit, nor does it need such a limit to ensure the NOx and CO caps are not exceeded. Adding an operating hour limit to this permit is a redundant and unnecessary requirement since Bluegrass could not operate more than these hours without being above the ton per year cap limits for NOx and CO. Bluegrass is requesting the operating hour limit of 4757 hours per 12 month rolling period be removed from this permit.

Division's response: Please refer to the response of comment 2.

5. Section B – Condition 2.c) Emissions Limitations: On Page 2 of 25, Condition 2.c states that startup and shutdown are calculated based on the vendor recommended emission rate. This is not accurate, Bluegrass does not use vendor emission rate to calculate startup and shutdown emissions. Startup and shutdown emissions are instead based on actual emission testing. Bluegrass uses startup and shutdown emission rates determined from actual emission testing during startup and shutdown. This data has been entered into the CEMS units at Bluegrass and is used to accurately record CO emissions during startup and shutdown event. Bluegrass requests this be noted to reflect more accurately in the permit how startup and shutdown emissions data are obtained and recorded.

Division's response: Please refer to the response of comment 3.

6. Section B – Condition 4.i) Specific Monitoring Requirements: On Page 4 of 25 Condition 4.i states that, calibration checks and zero and span adjustments must be performed at least once daily. Bluegrass was designed and operates as a peaking facility and does not operate on a continuous daily basis and does not perform these calibrations daily. Therefore Bluegrass requests changing this condition to state, “...*calibration checks and zero and span adjustments at least once daily, **when operating**, as specified...*”

*Division’s response: The CO monitors were originally installed for continuous monitoring of Bluegrass’s federally enforceable emission limit of 245 tons per year to preclude 401 KAR 51:017 (PSD) and to qualify as a Title V/Synthetic minor source. Since Condition 4.i) only includes calibration of the CO monitor, it was determined that the zero/span calibration check frequency was incorrectly referenced to part 60 Standards of Performance of New Stationary Sources (NSPS), 40 CFR 60.13 d(1). The correct reference should be to the KY General Provisions, 401 KAR 59:005 Section 4(4) that states “Owners or operators of all continuous emission monitoring systems installed with the provisions of this administrative regulation shall check the zero and span drift at least once daily in accordance with the method prescribed by the manufacturer of such systems....” However, 401 KAR 59:005 Section 4(9) allows “Upon written application by an owner or operator, the cabinet may allow alternative monitoring procedures or requirements which have been approved by the US EPA including, but not limited to the following: ... (9)(b) Alternative monitoring requirements **when the affected facility is infrequently operated.**” Bluegrass Generation, at its own discretion, petitioned the Director in a letter dated May 4, 2006 to approve an alternative monitoring procedure for zero/span calibration checks on the CO monitor that will parallel the NOx and O2 monitor requirements under 40 CFR part 75 and meet its operational intentions. In a letter dated May 15, 2006, the Director determined that based on the total cumulative operating hours for Bluegrass over the past four year period, which are 357 for Unit 1, 434 for Unit 2, and 421 for Unit 3, their request to perform daily zero/span checks consistently with their NOx and O2 monitoring requirements under 40 CFR 75 was acceptable. The alternative monitoring procedure was granted with two provisions that must be adhered to for the CO monitor. First, conditions for monitoring emissions data out-of-control periods as defined in 40 CFR 75.24 for CEMS shall apply to the CO monitors, which includes failed zero/span checks, RATA tests, and the like. This out-of-control data is not to be used to calculate hourly emissions for the time period considered out-of-control until that time when the appropriate corrective measures specified in 40 CFR 75.24 are successfully completed and the data is back in-control. Second, data substitution rules shall apply to the CO emissions data for out-of-control periods, including monitoring downtime, and those substituted emission data values shall count toward the facility source-wide annual federally enforceable CO emissions limit. For the purpose of complying with this requirement, the data substitution rules for NOx monitors listed in 40 CFR 75.33 shall be applied to the CO monitors. The proposed permit will include the approved alternatives listed above to allow CO monitor daily zero/span calibration checks when operating. Additionally, condition 4e) from the previous final permit stating, “The owner or operator shall comply with all monitoring requirements of 40 CFR 75” which had been inadvertently removed from the draft renewal permit, was reinserted in Section 4.*

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.